REPORT OF THE MAFF AGRICULTURAL LAND CLASSIFICATION SURVEY (1988) ALREWAS

Resource Planning Group
WOLVERHAMPTON
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SUMMARY

The land has been classified following the Agricultural Land Classification of England and Wales - revised guidelines and criteria of grading the quality of agricultural land (MAFF, 1998). Of the land surveyed 50% is classified as Subgrade 3b. A further 46% is classified as grade 4 and the remaining 4% of the area is non agricultural land.

1. INTRODUCTION

The survey work was carried out on 19 and 20 February 1990. A 100m grid auger boring survey was completed and soil pits were dug as required.

2. CLIMATIC LIMITATIONS

The main priorities used in the assessment of the climatic limitations are average annual rainfall (AAR), as a measure of the overall wetness, and accumulated temperature (ATO), as a measure of the relative warmth of the locality. The figures of AAR and ATO indicate that there are no climatic limitations on this site.

3. SITE LIMITATIONS

The assessment of site factors is primarily concerned at the way in which topography influences the use of agricultural machinery and hence the cropping potential of the land. There are no site limitations affecting the use of the land. Much of the site lies within the flood plains of the Rivers Trent and Tame.

Minor washland/flood plain flooding can occur once or twice per year on average with a duration of approximately 2 days (information provided by water authority).

Where flooding has been taken into account this will be referred to in section 7.

4. SOIL LIMITATIONS

The main soil properties which affect the cropping potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. The physical limitations which result from interactions between climate or site are soil wetness, droughtiness and erosion.

Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is assessed in the field by identifying the depth to any slowly permeable soil horizon, defined in terms of soil - texture, structure and gleying and relating this to the texture of the top 25cms.

Combining the soil wetness and the field capacity days (FCD) a land classification grade is arrived at. Reference will be made to this limitation in Section 7.

To achieve full yield potential a crop requires an adequate supply of soil moisture throughout the growing season. In the Agricultural Land Classification (ALC) system the method used to assess droughtiness takes into account the crop adjusted available water capacity of the soil and the moisture deficit to give an estimate of the average soil moisture balance. Reference will be made in section 7 where droughtiness affects the grading of the land.

5. BACKGROUND INFORMATION

The underlying geology is mapped as Alluvium deposits with an area of River Terrace Deposits at the southern end of the site (sheet 154, Lichfield Geological Survey).

6. AGRICULTURAL LAND USE

At the time of the survey, February 1990, the site was grass and winter cereal.

7. AGRICULTURAL LAND QUALITY (Appendix 1)

Subgrade 3b: The soils typically have either a sandy loam topsoil overlying either sand or gravel increasing stone content with depth or sandy clay loam and clay or a sandy clay loam or clay loam topsoil overlying clay.

The land is classified as Subgrade 3b because either there is a droughtiness limitation or a soil wetness one. Where the droughtiness occurs the stone content at depth further reduces the available water holding capacity of the soil and the moisture balance indicate a classification of Subgrade 3B. Where soil wetness limitation occurs the depth to the slowly permeable layer and observations of gleying combined with a fuel capacity day figure of 143 and a topsoil texture of either sandy clay loam or clay loam indicate wetness class IV and Subgrade 3b.

Grade 4: The land here typically has clay extending to the surface, in places organic clay overlying clay, and lies within the flood plain. These soils have a low permeability and respond more slowly to the lighter textured soils on the site to any flooding that may occur and are therefore classified as Grade 4.

Non Agricultural Land: Includes a farm track running across the site.

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AGRICULTURAL LAND QUALITY ALREWAS

Grade/Subgrade	Hectares	% of Total Area
3b	21.2	50
4	19.3	46
Non Agricultural	1.6	4
TOTAL	**42.1**	**100**

REPORT TO ACCOMPANY THE SOIL UNITS MAP FOR ALREWAS

Following the Agricultural Land Classification Survey of soils of a similar texture had been placed into soil units, thus reflecting similar requirements for stripping, handling and storage. Three soil units are identified on this site and are as follows:

1. Clay texture

2. Sandy loam overlying sandy clay loam and clay

3. Sandy loam overlying sand and gravel

Soil pits were dug as required to observe physical characteristics such as structure and subsoil stone content.

Unit I

This unit includes soil of clay texture extending from the surface for at least 100cm. In places topsoil has an organic clay texture. The soil pit description is given in Appendix 1.

Unit II

The soils typically have a sandy loam topsoil overlying sandy clay loam at depths of between 33 and 40cm and then overlying clay at depths of between 33 and 70 until a stony horizon is encountered. Occasionally a sandy clay loam soil is present within this unit. A soil pit description is given in Appendix II.

Unit III

Typically this unit has a sandy loam texture overlying sand and gravel with much stone present at depths of between 30cm and 50cm. A pit description is given in Appendix III.

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APPENDIX 1

UNIT I

Depth (cms)	Texture	Munsell Colour	Mottling	Structure	% Porosity >0.15mm
0-25	C	10 YR 4/1	Faint ochreous	Moderately well developed coarse angular blocky	>0.5
25-100	C	10 YR 5/1 becoming 10 YR 6/4 below 60cm	Abundant ochreous	Weakly developed coarse prismatic	>0.5

Plant roots abundant 0.40cm, fewer below 40cm. No stones present.

APPENDIX II

UNIT II

Depth (cms)	Texture	Munsell Colour	Mottling	Structure	% Porosity >0.15mm
0-37	SL	10 YR 3/3	-	Weakly developed fine subangular blocky	-
37-51	SCL	10 YR 6/4	Common; pale	Weakly developed fine subangular blocky	0.5%
51-70	Sand and gravel			Structureless	

Stones: 0-37, 5% small/medium rounded and angular hard stones
37-51, few stones
51+, numerous, small and medium, rounded and angular hard stones

APPENDIX III

UNIT III

Depth (cms)	Texture	Munsell Colour	Mottling	Structure	% Porosity >0.15mm
0-30	MSL	10 YR 3/3		Weakly developed fine subangular and crumb	-
30-40	MSL with numerous small stone fragments	10 YR 3/3		Crumb	-
40-70	Sand and gravel mix				

Stones: 0-30cm - 10% > 2cm
40% < 2cm
30-40cm - 60% > 2cm

Roots abundant 0-30cm and common to 50cm.